



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

AUG 5 1998

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

**MEMORANDUM**

**SUBJECT:** National Remedy Review Board Recommendations for the Wyckoff Groundwater Superfund Site

**FROM:** Bruce K. Means, Chair   
National Remedy Review Board

**TO:** Randy Smith, Director  
Environmental Cleanup Office  
EPA Region 10

Purpose

The National Remedy Review Board (NRRB) has completed its review of the proposed cleanup action for the Wyckoff Groundwater Operable Unit near Eagle Harbor, Puget Sound, WA. This memorandum documents the NRRB's advisory recommendations.

Context for NRRB Review

As you recall, the Administrator announced the NRRB as one of the October 1995 Superfund Administrative Reforms to help control remedy costs and promote consistent and cost-effective decisions. The NRRB furthers these goals by providing a cross-regional, management-level review of high cost proposed response actions. The Board will review all proposed cleanup actions where: (1) the estimated cost of the preferred alternative exceeds \$30 million, or (2) the preferred alternative costs more than \$10 million and is 50% more expensive than the least-costly, protective, ARAR-compliant alternative. The NRRB also reviews non-time-critical removal actions at non-federal facility sites that are expected to cost more than \$30 million.

The NRRB review evaluates the proposed actions for consistency with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP, 40 CFR part 300) and relevant Superfund policy and guidance. It focuses on the nature and complexity of the site; health and environmental risks; the range of alternatives that address site risks; the quality and reasonableness of the cost estimates for alternatives; Regional, State/tribal, and other stakeholder opinions on the proposed actions, and any other relevant factors.

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Generally, the NRRB makes “advisory recommendations” to the appropriate Regional decision maker before the Region issues the proposed plan. The Region will then include these recommendations in the Administrative Record for the site. While the Region is expected to give the Board’s recommendations substantial weight, other important factors, such as subsequent public comment or technical analyses of remedial options, may influence the final Regional decision. It is important to remember that the NRRB does not change the Agency’s current delegations or alter in any way the public’s role in site decisions.

#### NRRB Advisory Recommendations

The NRRB reviewed the information package for the site and discussed related issues on July 21, 1998, with Mike Gearheard, EPA’s Region 10 Office of Environmental Cleanup Associate Director; Christina Ngo, EPA Wyckoff Project Manager; Guy Barrett, Washington Department of Ecology Wyckoff Project Manager; Charlie Sigo, Suquamish Tribal Council Member; and Rich Brooks, Suquamish Tribe Fisheries Department Biologist.

Based on this review, the Board supports the Region’s goal to achieve a permanent solution to the non-aqueous-phase liquid (NAPL) contamination at the Wyckoff ground water operable unit. In particular, the Board agrees with the Region’s proposal that the application of steam injection warrants further analysis/evaluation as the Region’s tiered approach would provide. The Board recognizes that steam injection at this site poses specific technical challenges and uncertainties that need to be addressed. These are discussed below.

- There are still inadequate technical data on some important issues at this early stage of planning. The Board recommends that the Region pay careful attention to evaluating factors such as:
  - the effect of the shallow overburden on the efficiency of creosote recovery by steam injection;
  - the effectiveness of sheet piling and vapor cap in preventing releases from the treatment zone;
  - the effectiveness of hydrous pyrolysis/oxidation, biodegradation, sorption, and other processes in reducing contaminant concentrations. These processes may affect significantly the residual contaminant levels even after steam injection has ceased, and should be considered in setting targets for removal efficiency.
- The materials provided to the Board did not specify target contaminant concentrations in the saturated zone that would result in protective levels in the marine water column and sediments. Before issuing the proposed plan, the Region should identify removal efficiency and residual contaminant levels that will be protective and thus eliminate the need for long-term containment.
- The Board believes it is reasonable to use a tiered approach to determine the likely effectiveness of steam injection and whether to invoke the contingent remedy (containment). However, the materials presented to the Board did not include criteria for determining whether the Region will proceed from analytical and bench-scale studies to field-scale testing. Criteria for evaluating the field results that would dictate either full-scale implementation of steam injection or the contingent remedy are also important. The Region should develop these criteria and include them in the proposed plan for this cleanup decision.

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- The Board understands that the Region does not intend to fully implement the steam injection remedy unless the tiered evaluation indicates that it may achieve a permanent cleanup and eliminate the need for long-term containment. However, given the uncertainty about this technology's effectiveness at this site, some degree of containment may be necessary subsequent to implementation of steam injection. The Board recommends that the Region include in the proposed plan information on the potential costs of a steam-injection-plus-containment scenario. This will ensure that all stakeholders and decision makers are aware of the potential for these additional costs.

The NRRB appreciates the Region's efforts to work closely with the State, the Tribe, and the community to identify the current proposed remedy. The Board members also express their appreciation to the Region, State, and Tribe for their participation in the review process. We encourage Region 10 management and staff to work with their Regional NRRB representative and the Region 4/10 Accelerated Response Center at Headquarters to discuss any appropriate follow-up actions.

Please do not hesitate to give me a call if you have any questions at 703-603-8815.

cc: S. Luftig  
T. Fields  
B. Breen  
J. Woolford  
C. Hooks  
E. Cotsworth  
OERR Center Directors

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